



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/540,113

08/23/2005

Joerg Dantlgraber

124225

1472

25944 7590 12/20/2007

OLIFF & BERRIDGE, PLC

P.O. BOX 320850

ALEXANDRIA, VA 22320-4850

EXAMINER

BAYOU, AMENE SETEGNE

ART UNIT

PAPER NUMBER

4147

MAIL DATE

DELIVERY MODE

12/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,113	Applicant(s) DANTLGRABER, JOERG	
	Examiner AMENE S. BAYOU	Art Unit 4147	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/16/05,06/20/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to because figure 1 contains a non English word “Ansicht A”. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: The first paragraph contains a phrase “according with the preamble of claim 1” which needs to be deleted.
3. Appropriate correction is required.

Claim Objections

4. Claim 15 objected to because of the following informalities: It contains a non English word "mit" and need to be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112 that forms the basis for the rejections under this section made in this Office action:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claim 13 is rejected under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 13 recites the limitation "the pin" in claim 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that forms the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States

9. Claims 1-3, 8-12, 13 (as far as it is definite) and 15-17 are rejected under 35 U.S.C. 102(b) as being unpatentable over Achten (US patent publication number US2005/0201879A1).

10. In re claim 1, Achten '879A1 in figure 1, 11 and 12 discloses the claimed invention including:

- Axial –piston machine including one swash plate (4)
- On which a cylinder drum (7) is supported
- Wherein pistons (12) are guided that are in operative connection with a shaft (2)
- Wherein the axis of rotation of the cylinder drum (m1) is inclined relative to the axis of rotation of the pistons (l)
- And wherein the cylinder drum (7) has a multiplicity of cylinder sleeves (11) indirectly or directly supported on the swash plate (4)
- Each cylinder sleeve (11) is pivotally mounted through the intermediary of a joint (48)

11. In re claim 3 Achten '879A1 in figure 11 discloses the claimed invention including:

- A joint pin (48) extending thru a bottom of the cylinder sleeve (11) and forms the joint jointly with an inner peripheral range (9) of the cylinder sleeve

12. In re claim 8 Achten '879A1 discloses the claimed invention including:

- Each cylinder sleeve (11) has spherical bottom surface, in claim 19.

13. In re claim 9 Achten '879A1 in figure 1 discloses the claimed invention including:

- The cylinder sleeves (11) guided in a drive member (7) of the cylinder drums (7) which drive member is supported through one end face of on the swash plate (4)

and is connected in rotation with the shaft (2) so as to admit a tumbling motion using (16).

14. In re claim 10 Achten '879A1 in figure 1 discloses the claimed invention including:

- The drive member has a drive disk with a flange part (7) at the annular end face of which the cylinder sleeves (11) are supported.

15. In re claim 11 Achten '879A1 in figures 11 and 12 discloses the claimed invention including:

- Through openings (6) are arranged in the flange parts (7) approximately in axial alignment with the cylinder sleeves (11) in each of which one joint pin (48) is immobilized

16. In re claim 12 Achten '879A1 in figure 11 discloses the claimed invention including:

- The through opening (6) is formed in a kidney shape in portions thereof and the joint pin (48) is positively immobilized by beading the ranges adjacent these kidney shaped portions, in figure 11 and column5 paragraph 70 and 71

17. In re claim 13 Achten '879A1 in figure 11 discloses the claimed invention including:

- A bore (6) extends through the joint pin (48)

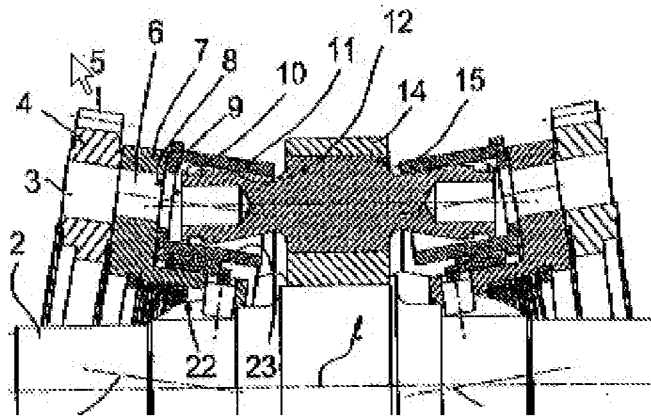
18. In re claim 15 as best as understood Achten '879A1 in figure 1 discloses the claimed invention including:

- Two rows of oppositely oriented pistons (12) to each of which a cylinder drum (7) and a swash plate (40) are associated.

19. In re claim 16 Achten '879A1 in figure 1 discloses the claimed invention including:

Art Unit: 4147

- The piston (12) has the form of a double piston with two oppositely oriented pistons (12) that are connected in rotation with the shaft (2) and the portions of which plunging into the cylinder sleeves (11) conically expanding from a constriction towards the piston rings (10)



20. In re claim 17 Achten '879A1 in figure 1 discloses that the invention is an axial piston machine.

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 2, 4-7 and 14 are rejected under 35 U.S.C 103(a) as being unpatentable over Achten '879A1 in view of Wiggerman (US patent number 2968286).

23. In re claim 2 Achten '879A1 discussed above discloses all the limitations except:

- The joint pin is a ball joint

But Wiggerman'286 teaches a hydraulic axial piston machine having:

- A joint pin which is spherical shell, i.e a ball (19), in figure 3 and column 4, lines 39-42.

24. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the sleeve joint of Achten '879A1 to make it spherical shape as taught by Wiggerman'286 since it is well known in the art to make a ball joint connection for example for ease of rotation .

25. In re claim 4 Achten '879A1 discussed above discloses all the limitations except:

- The joint pin is a spherical shell

But Wiggerman'286 teaches a hydraulic axial piston machine having:

- A joint pin which is spherical shell (19), in figure 3 and column 4, lines 39-42.

26. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the sleeve joint of Achten '879A1 to make it spherical shape as taught by Wiggerman'286 since it is well known in the art to make a spherical connection for example for ease of rotation or movement.

27. In re claim 5 Achten '879A1 discussed above discloses:

- An axial piston machine where a joint pin of the joint is formed by a pin (48) which axially projects from the bottom of the cylinder sleeves (11), in figure 1, 11 and 12

But Achten '879A1 fails to disclose:

- Joint pin carrying a seal

However, Wiggerman'286 teaches:

- A joint pin (56, 58) carrying a seal, in figure 8.

28. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the joint pin of Achten '879A1 to include a seal as taught by Wiggerman'286 since it is well known in the art to put a seal on a shaft or sleeve to prevent leak or other related problem.

29. In re claim 6 Achten '879A1 discussed above discloses:

- Axial piston machine with cylinder sleeves(11) in figure 1,11,12

But Achten '879A1 fails to disclose:

- Cylinder sleeves that are biased in to contact

However, Wiggerman'286 teaches:

- Cylinder sleeves (9) that are biased in to contact (23), in figure 1.

30. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the cylinder sleeves of Achten '879A1 to include a biasing contact as taught by Wiggerman'286 since it is well known in the art to put a biasing contact ,such as a spring to have a secure positive seating of machine elements.

31. In re claim 7 Achten '879A1 discussed above discloses:

- Axial piston machine with cylinder sleeves(11) in figure 1,11,12

But Achten '879A1 fails to disclose:

- Cylinder sleeves have on the foot side a radially projecting support rim on which a tensioning spring sits.

However, Wiggerman'286 teaches:

- Cylinder sleeves (9) have on the foot side a radially projecting support rim on which a tensioning spring (23) sits, in figure 1.

32. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the sleeves of Achten '879A1 to put a supporting rim for the spring as taught by Wiggerman'286 since it is known in the art to put a support for the spring which would otherwise wouldn't function because of common sense.

33. In re claim 14 Achten '879A1 in figure 11 and 12 discussed above discloses spherical head of pin (48) mounted in a bearing reception of the flange part (7).

Conclusion

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Folsom et al. (US patent publication number 2004/0126245A1) discloses a hydraulic pump and motor. Pecorari (US patent number 5636561) discloses volumetric fluid machine equipped with pistons . Pecorari (US patent number 5794514) discloses volumetric machine with curved liners.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amene S. Bayou whose telephone number is 571-270-3214. The examiner can normally be reached on Monday-Thursday, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on 571-272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amene S Bayou
Examiner
Art Unit 4147

/George Nguyen/

Supervisory Patent Examiner, Art Unit 4147